

3.1.3 Decontamination

R&D surveys have been completed on the properties and the results circulated to the project team. The decontamination of the Science Block services and equipment including finishes, equipment, fittings, ducts and pipework is to be undertaken as part of the works.

3.1.4 Fabric Repair

Fabric repair works are to be undertaken in order to prevent further accelerated decay of the building. The scope of works, as agreed via an EoL, is based on site inspections undertaken to date. Further inspections are to be carried out post strip-out works and to areas currently inaccessible once safe access can be provided. The Outline Schedule of Works and Specification, contained within the application documents should be referred to for full information, but the below summarises the proposed fabric repair works for ease of reference:

- Masonry repairs including 39 Russell Square (RS) East and West elevation brickwork and mortar repairs, rear terrace parapet upstand repairs, chimney and parapet coping repairs and render repairs to the east elevation of 39RS and north elevation of the Science Block (SB)
- Leadwork repairs associated with defective roof flashings and gutters
- Chimney pot repairs where defective
- Replacement of waterproofing to SB roof, 39RS rear terrace and 39RS roof above stair core
- Repairs to main entrance stair fronting 39RS
- Repairs to balconies at first floor level fronting 39RS
- Local repairs to windows where defective to ensure watertightness integrity and operation
- Installation of draught proofing to windows where required
- Repair of rainwater goods where defective
- Waterproofing to isolated areas such as vaults and lobby under main entrance stair to provide additional protection against water ingress
- Cosmetic repairs to make good existing internal dilapidations.

3.1.5 New Elements

In order to make the accommodation suitable for occupation for the intended functions, light-touch alterations are also required including.

- The installation of new kitchenette units within 39RS connecting to capped services installed in 2017 at Levels 01, 03 and 04
- New finishes throughout the Science Block and to discreet locations within 39RS to accommodate proposed uses
- Lightweight partition at Level 03 of 39RS to provide security between proposed mess and project space
- Full internal fit out within the Science Block and Levels 01 and 02 including new lightweight partitions and doors, alteration of existing walls and doors, provision of new WC and shower areas and associated drainage, provision of new workshop facilities, and provision of new services throughout
- Reinstatement of internal connections at Levels 01 and 02 from the Science Block to 39RS
- Provision of mansafe roof access systems to both the Science Block and 39RS including the provision of a fixed ladder to the Science Block roof from the Southern courtyard

3.1.6 Services

The services proposals can be split into two distinct approaches for the main terrace of 39RS and its annex, the Science Block.

For 39RS, services recently installed in 2017 will be utilised throughout, with only minor alteration needed in relation to the installation of new kitchens and their connection into capped services installed in 2017, and BWIC related to the provision of additional internal conditioning units required to support the conditions of proposed comms/IT plant and conditioned stores.

For the Science Block, its state of vacant disrepair renders the use of existing services infeasible, so new services will be provided throughout. This includes the provision of Mechanical Ventilation and Heat Recovery (MVHR) systems for both the workshops and welfare accommodation, which requires some minor alteration to elevations for intake and extract air, new lighting, fire alarm, CCTV and security access control. Existing ventilation fenestration within the Science Block roof and walls will be utilised where possible for specialist workshop equipment extraction. To power the Science Block, a connection will need to be reformed to the power supply services within the King Edward Building on the Museum Estate, which is currently capped off.

Existing doors will also have to be retrofitted and new doors provided where required in order to upgrade security provision to meet current Museum standards. A new phone line will also be required to be installed associated with the existing lift to ensure its operation.

3.2

PROPOSED LAND USE & ACCOMMODATION

The existing properties at 39 Russell Square and Science Block will be a five-storey staff accommodation, comprised of basement, ground, first, second and third floors, including associated works to provide suitable plant and welfare accommodation ancillary to the Museum. It will house the Museum’s Carpenters and Locksmiths Workshops, as well as other departments; The British Museum Company, Capital Planning & Programme Management (CPPM), Property & Facilities Management (PFM) and other external contractors, affected by the construction of the new ERB.

The following pages include the proposed plans to illustrate the makeup of accommodation, with green tone showing plant/infrastructure areas and orange/ yellow tones showing support accommodation space.

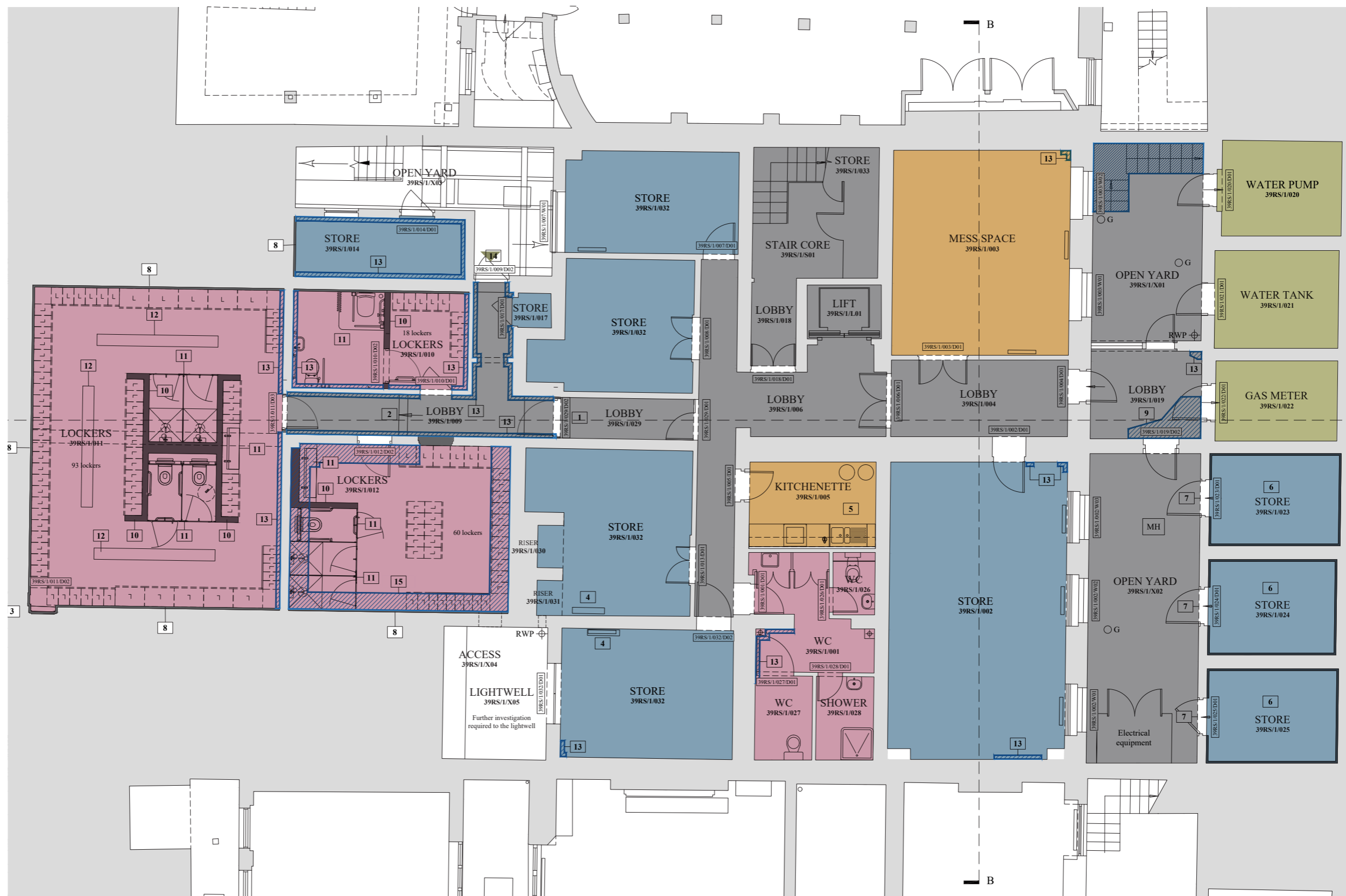


Key:

- Plant
- Offices, Workshops & Project Spaces
- Circulation
- Mess Areas
- Welfare - Lockers, Showers & WCs
- Storage
- General Access
- Water ingress or damage on walls or ceiling

Right:

Proposed Basement (Level 01)
Plan



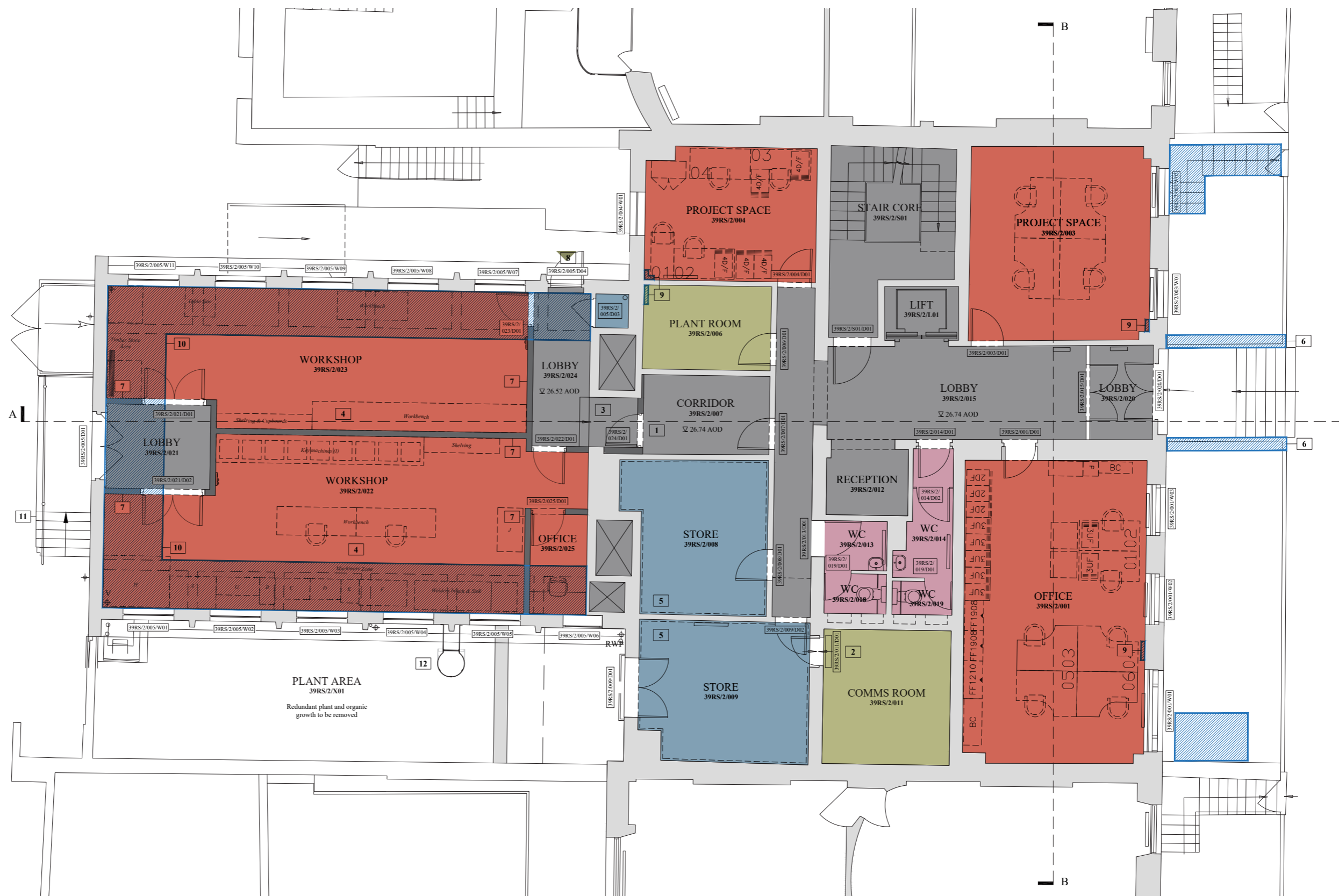


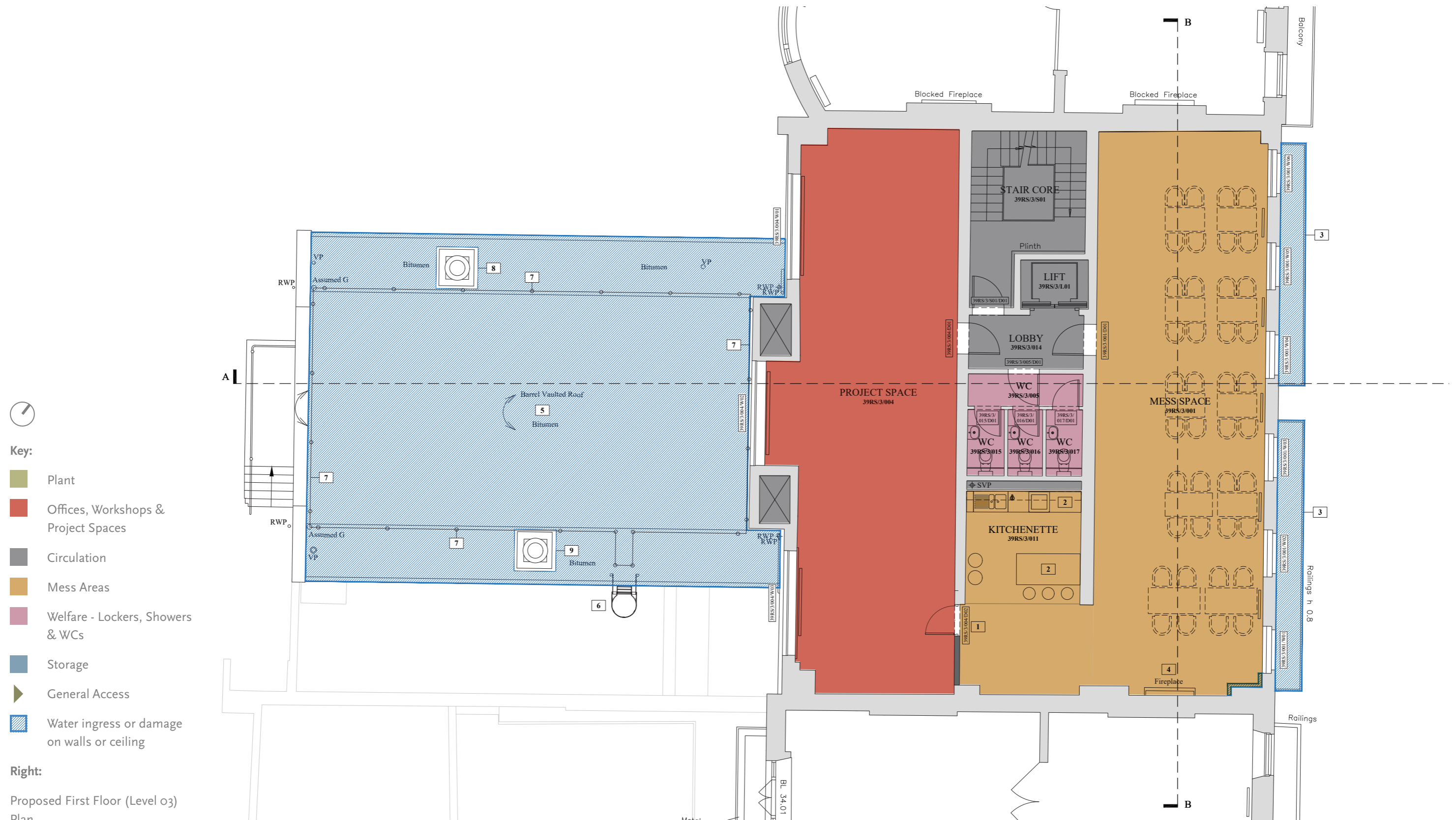
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Right:

Proposed Ground Floor (Level 02)
Plan





Key:

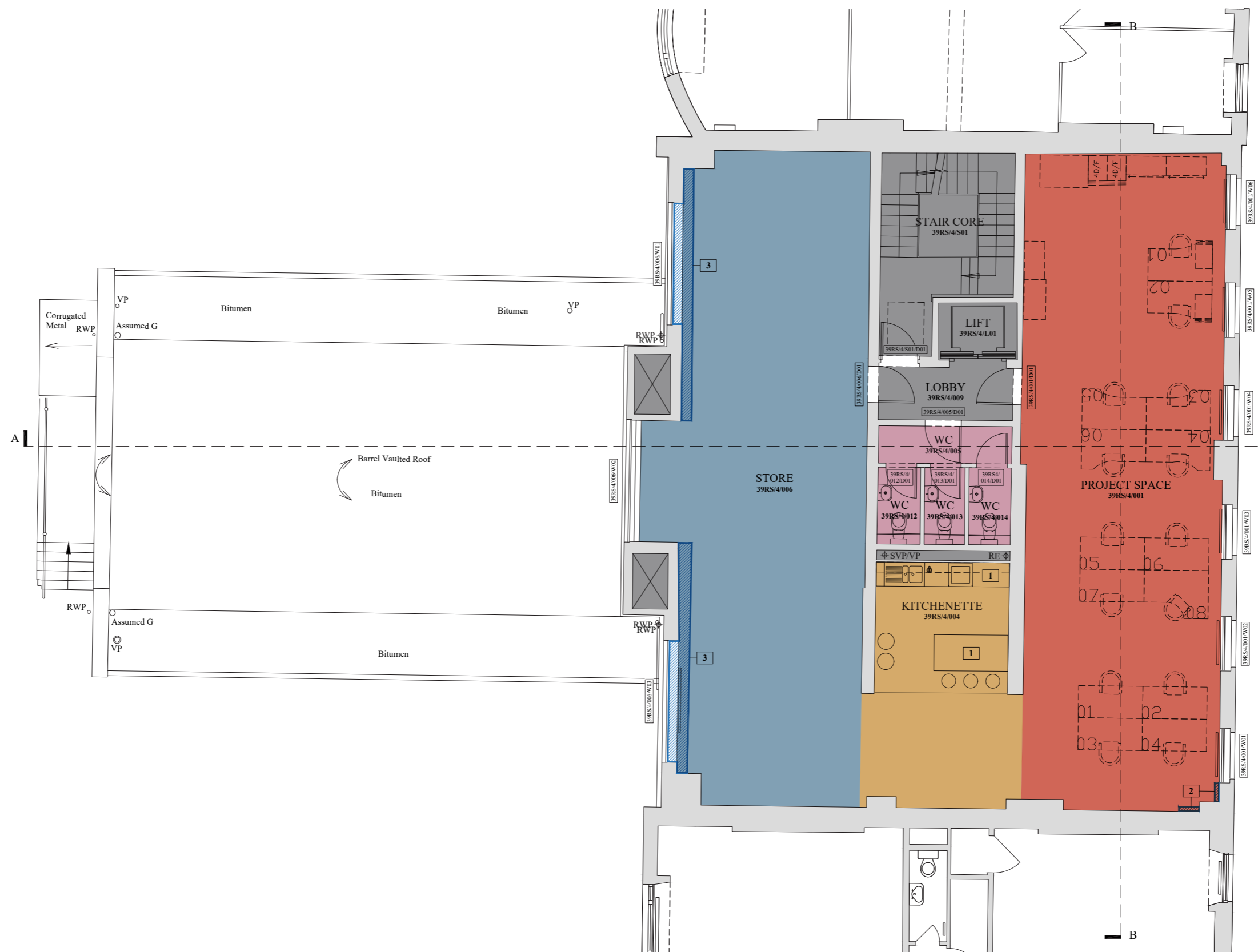


Key:

- Plant
- Offices, Workshops & Project Spaces
- Circulation
- Mess Areas
- Welfare - Lockers, Showers & WCs
- Storage
- General Access
- Water ingress or damage on walls or ceiling

Right:

Proposed Second Floor (Level 04)
Plan



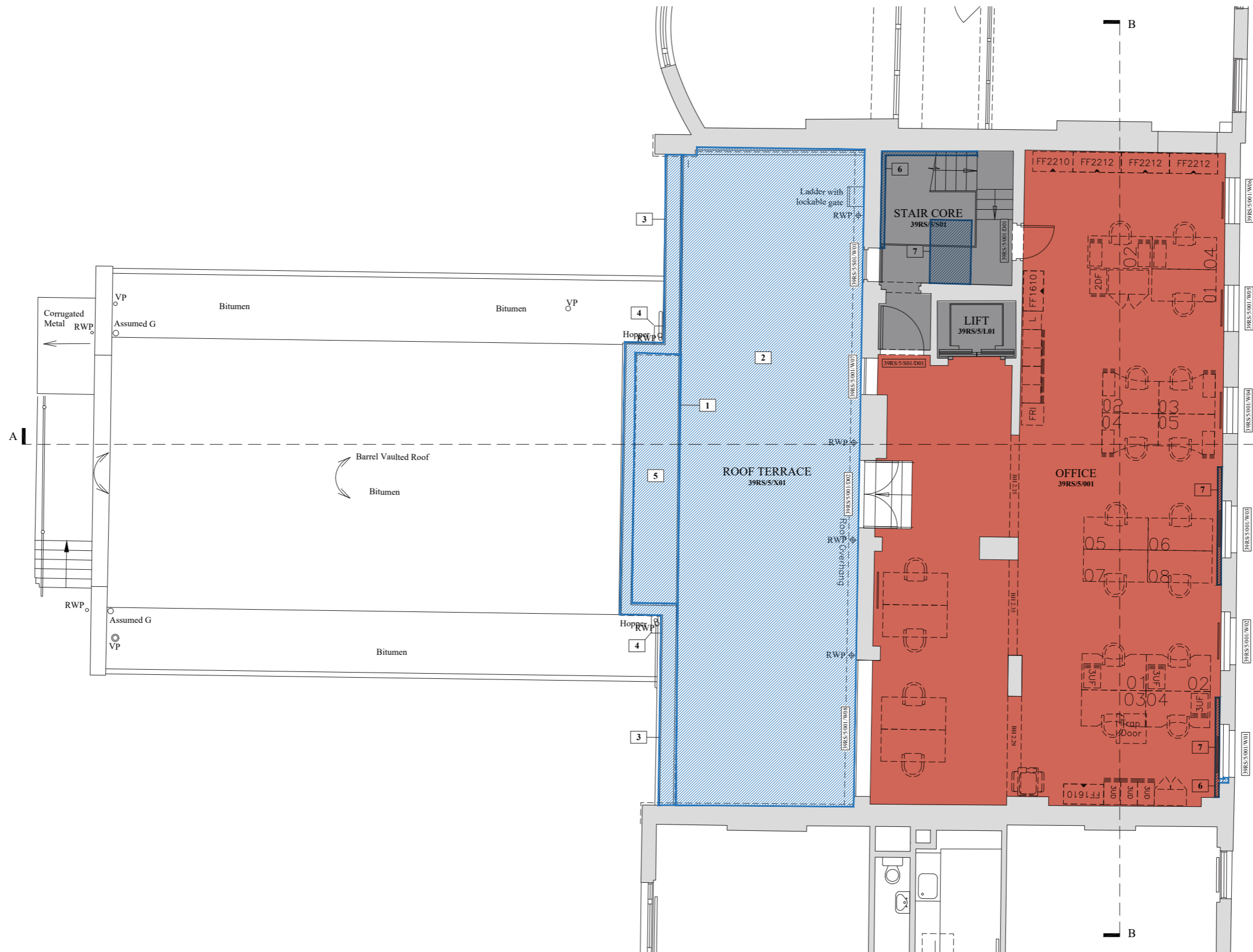


Key:

- Plant
- Offices, Workshops & Project Spaces
- Circulation
- Mess Areas
- Welfare - Lockers, Showers & WCs
- Storage
- General Access
- Water ingress or damage on walls or ceiling

Right:

Proposed Third Floor (Level 05)
Plan





Key:

- Plant
- Offices, Workshops & Project Spaces
- Circulation
- Mess Areas
- Welfare - Lockers, Showers & WCs
- Storage
- General Access
- Water ingress or damage on walls or ceiling

Right:

Proposed Section AA at 39 Russell Square



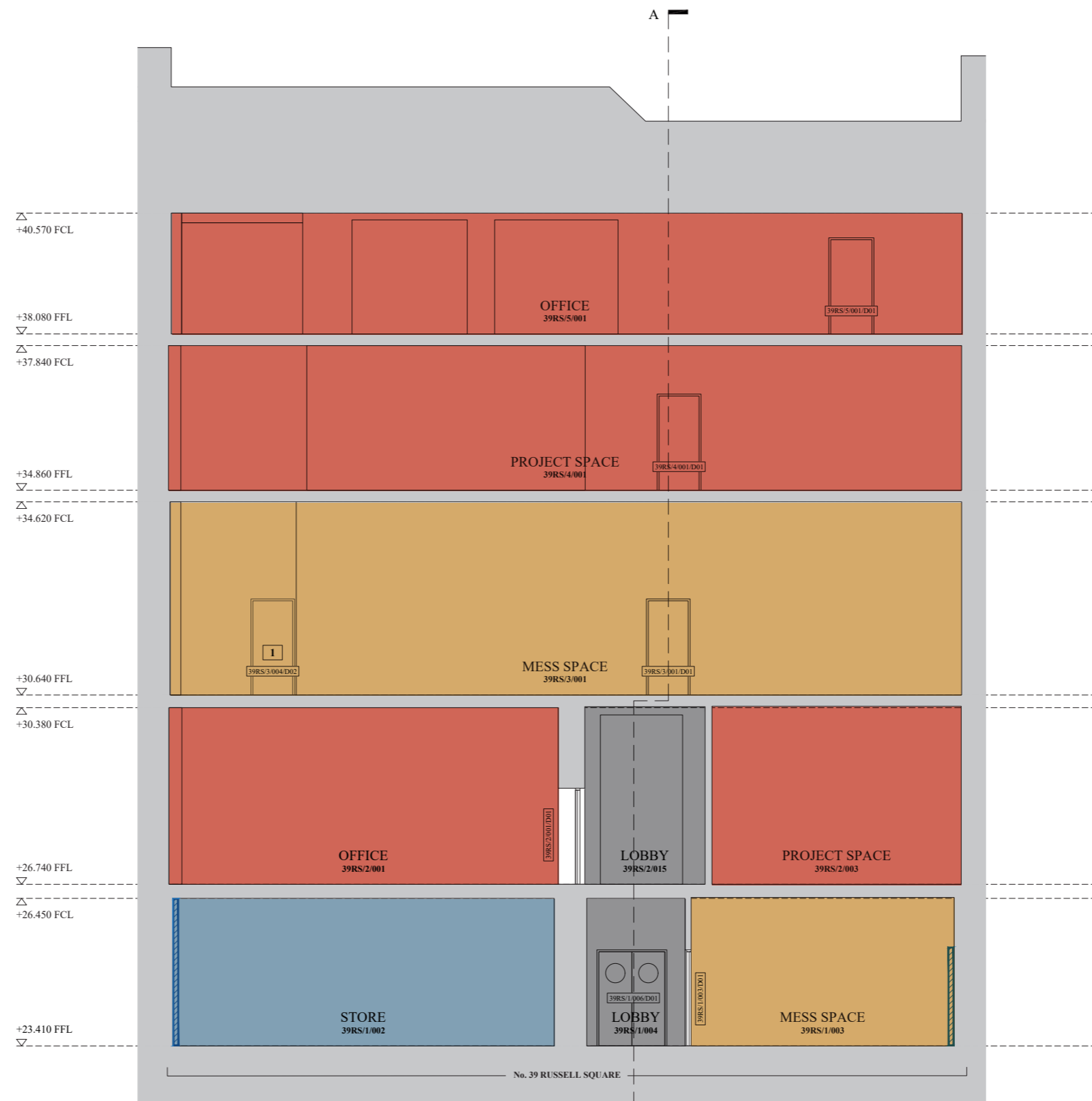


Key:

- Plant
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Right:

Proposed Section BB at 39 Russell Square



3.3

TECHNICAL CONSIDERATIONS

3.3.1

Accessibility


The proposals retain all access and egress, with minor configurations proposed to the replace the rear Science Block doors on the basement level (Level 01) and ground floor (Level 02). The new outward opening doors will serve as the main access via the rear of properties through the British Museum Estate.

The existing original front entry door to 39 Russell Square is an inward opening door and will act as a secondary means of escape in event of emergency, with everyday access only permitted with a separate key obtained through the security office. There is currently an auxiliary access to the property at 39 Russell Square from the street from steps down to basement level doors. These routes act as final exits in case of emergency.

Proposed demolition of internal walls to the rear 39 Russell Square at basement and ground levels aim to create access and connect the property to the rear Science Block annex, which will accommodate welfare and workshop areas.

There are currently steps up to the entrance at 39 Russell Square, as well as a non-DDA compliant ramp accessing the ground floor entrance and steps down to the basement floor entrance at the Science Block. This situation remains due to the proposed steps internally to mitigate a level change of 215mm between the existing finished levels at 39 Russell Square and the Science Block.

All floor levels will be maintained as existing, with any room threshold steps minimised and limited to a maximum of 15mm where absolutely unavoidable.

Key:

Support accommodation to which AD M requirements apply

Circulation, lobby & access to support accommodation where AD M requirements apply

Principal building entrance

Access/circulation route

Secondary access point

General access stair and lift

Plant & infrastructure areas where AD M requirements does not apply

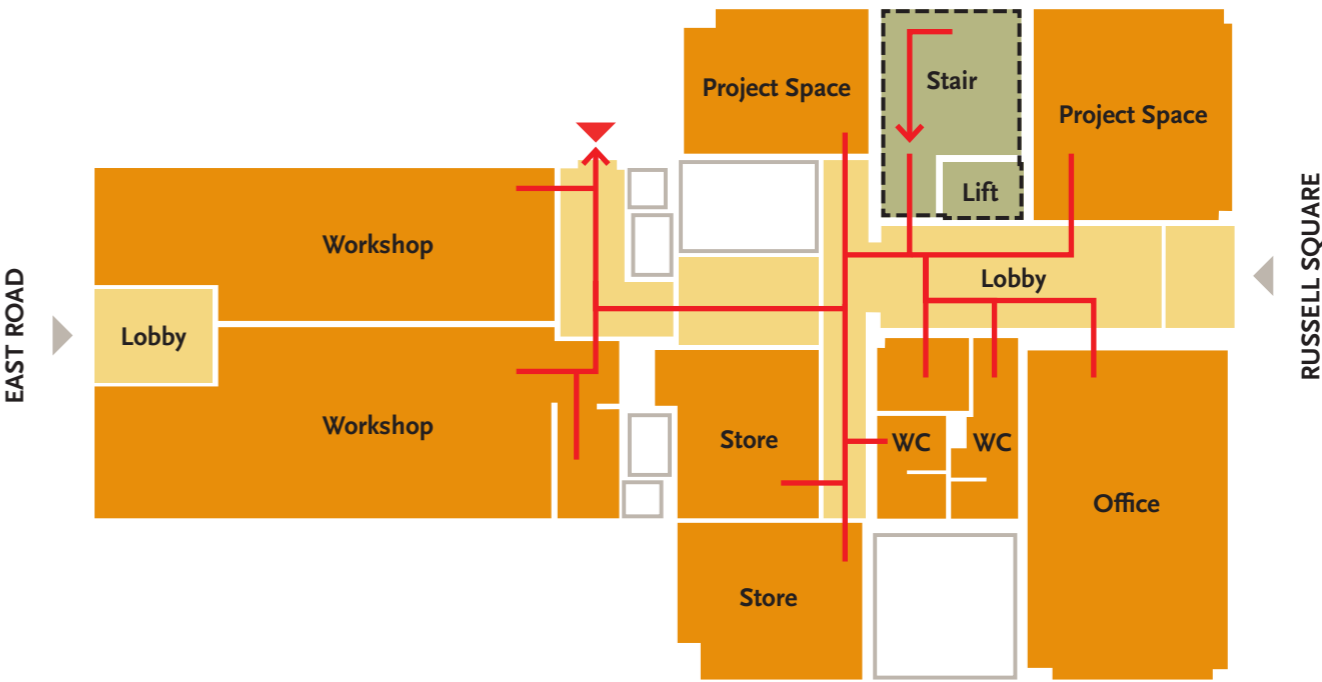
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Proposed Basement (Level 01)
Illustrative Floor Plan

Proposed Ground (Level 02)
Illustrative Floor Plan



Basement Floor (Level 01)



Ground Floor (Level 02)

Some localised levelling and making good is required at 39 Russell Square and the Science Block where floor finishes are to be replaced and partition walls removed.

Existing doors and hallways in the circulation routes are generally of generous width, in excess of 900mm, which is sufficient for use by wheelchair users. New doors in the circulation routes will generally be min. 800mm wide.

The handrails to the principal stair at 39 Russell Square are approx. 900mm above the pitch line and this should be considered acceptable by the Approved Inspector. The option to integrate a new handrail to the wall side has been disregarded due to the character of the staircase, its fittings and the heritage significance as a complete cantilevered stone staircase typical of the Georgian period.

New steps will have risers between 150mm and 220mm and going between 220mm and 300mm, with the pitch not exceeding 42 degrees. All handrails to new steps are designed to be min. 900mm above the pitch line as required.

There is a non-DDA compliant existing passenger lift, installed in 2017, at 39RS which serves all floors. The lift is currently not in operation and would require light refurbishment of services only, to reinstate it to functional use.

Accessibility Considerations

Due to the Grade-II status, heritage concerns and the setting of the historic property, it is considered inappropriate to modify the existing fabric, external or internal, to comply with access regulations, specifically in relation to the following:

Front steps accessing the property at 39 Russell Square

- A ramp would have a detrimental impact on the significance of the historic approach and access, the setting of the building, and its relationship with adjacent terraces and the square
- A platform lift would have a detrimental impact on the historic fabric and require extensive structural modifications to accommodate its mechanical and electrical requirements

Lift accessing all floors at 39 Russell Square

- The existing lift shaft is not be suitable for an Approved Document Part M lift access and accommodation for a suitable lift to meet the minimum requirements outlined in the AD Part M lift would see an extensive alteration to the lift shaft, internal and external fabric of the Grade-II Georgian property

The Museum has accepted the proposed provision only on the basis that the brief for the project is to facilitate decants associated with the SWEC programme on a temporary basis.

Prepared with ARUP

The principal aspects of the proposed fire strategy, in consultation with ARUP as the appointed Fire Engineer, can be summarised in the following sections.

Evacuation Strategy

A simultaneous evacuation strategy will be adopted throughout the building. In the event of a fire, all floors will be evacuated immediately.

Means of Escape

The proposals retain the existing 1000mm single internal stair and is deemed sufficient to serve the building occupancy of 92 people, with final exits via:

- Existing area external stair to Russell Square at Level 01
- Existing stair to Russell Square at Level 02
- Existing external stair from the Science Block at Level 01
- Existing Science Block exit door at Level 02

The basement on Level 01 is infrequently occupied as it houses changing rooms, storage and mess areas. Previous fire safety guidance Approved Document Part B acknowledged the use of staircase with a clear width of 800mm for up to 50 persons. If the internal staircase as the largest exit was discounted, the two existing external staircases on Level 01 could provide sufficient egress for up to 100 persons.

The existing entrance doors at 39 Russell Square open inward. A recommendation to provide automatic devices with fire alarm and detection system to open in the event of fire alarm activation will be implemented to provide a safe means of escape.

Accessible Evacuation

The existing lift is proposed to be recommissioned to serve all floors. Although considered non-accessible compliant, the lift could facilitate a handicapped evacuation, if required.

Due to the nature of the proposed works, no upgrade to the existing lift has been proposed and in lieu, as part of the fire safety responsibilities, the British Museum will facilitate a Personal Emergency Evacuation Plan (PEEP) and any equipment necessary to facilitate evacuation.

Fire Detection and Alarm Systems

The proposals aim to retain the existing fire detection and alarm systems, which has been upgraded as part of the refurbishment works in 2017. A survey to be undertaken to ensure the existing detection and alarm system provides L1/P1 coverage in accordance with BS 5839-1:2017, with aim for compliance upgrade if required to provide a suitable coverage throughout.

Structural Fire Resistance

As the topmost occupied storey of 39 Russell Square is less than 18m above firefighting access level, elements of structure for the building, including proposed lobby protection to Level 5, should achieve a minimum 60-minute fire resistance for loadbearing capacity (R), in accordance with Table 24 of BS9999:2017.

Fire Compartmentation

The proposals retain the existing compartmentation with additional measures following advice from ARUP in accordance with BS999:2017 summarised below:

- Additional requirements to be undertaken to the underdrawn floor separating basement and ground level to achieve a 60-minute fire resisting construction (REI)
- The storage and workshop will have a minimum of 30-minute fire resisting construction. Where flammable or highly flammable liquids are used or stored, increase to a minimum of 60-minute fire resisting construction
- The changing rooms will have a 30-minute fire resisting construction
- The boiler rooms will have a 60-minute fire resisting construction

Fire Safety Management

Fire safety information to ensure any potential future modifications to the building will take into account and not compromise base build fire safety/protection measures, to include:

- Effective fire safety management procedures will assist in the prevention and control of fires and the evacuation of occupants. They are the first defence against outbreak of fire and represent the best strategy to minimise fire risk
- A good maintenance strategy should be encouraged to ensure that the effectiveness of the fire safety provisions is not affected
- Maintenance procedures will need to be developed to ensure that all equipment and services within the buildings are able to operate effectively
- All necessary fire safety systems must be regularly maintained and tested
- Staff should regularly monitor escape routes and circulation areas in order to keep them generally free of combustibles and obstructions

- If a managed evacuation is agreed and adopted, following guidance from domestic staff should be trained in their specific responsibilities

Conclusion

It is concluded that the life safety standards for compliance with Part B of the Building Regulations as well as Policy D12 and D5 of the London Plan 2021 can be satisfied through the fire safety principles outlined within the accompanying Fire Statement by ARUP, commensurate with design development.

Prepared with Steensen Varming

Design Objectives

The objective of the proposed lighting scheme is to illuminate circulation route into the Science Block for safety and security. Wall-mounted luminaires (WL1) with only downward beam are proposed to provide suitable light level while minimising spill light and glare.

Illuminance Levels and Emergency Lighting

The minimum mean illuminance shall be 5 lux for pedestrians, as per BS EN 12464-2 and SLL Lighting Handbook. Lighting to stairs up to the Science Block entrance shall be 20 lux, as recommended by SLL Lighting Guide 16: Lighting for Stairs and The Health and Safety Executive’s guide HSG38: Lighting at Work.

The lux level on emergency escape routes will be 1 lux. WL1 wall-mounted luminaires will be converted to also be used as emergency lighting to minimise additional luminaire, fixing and cabling required.

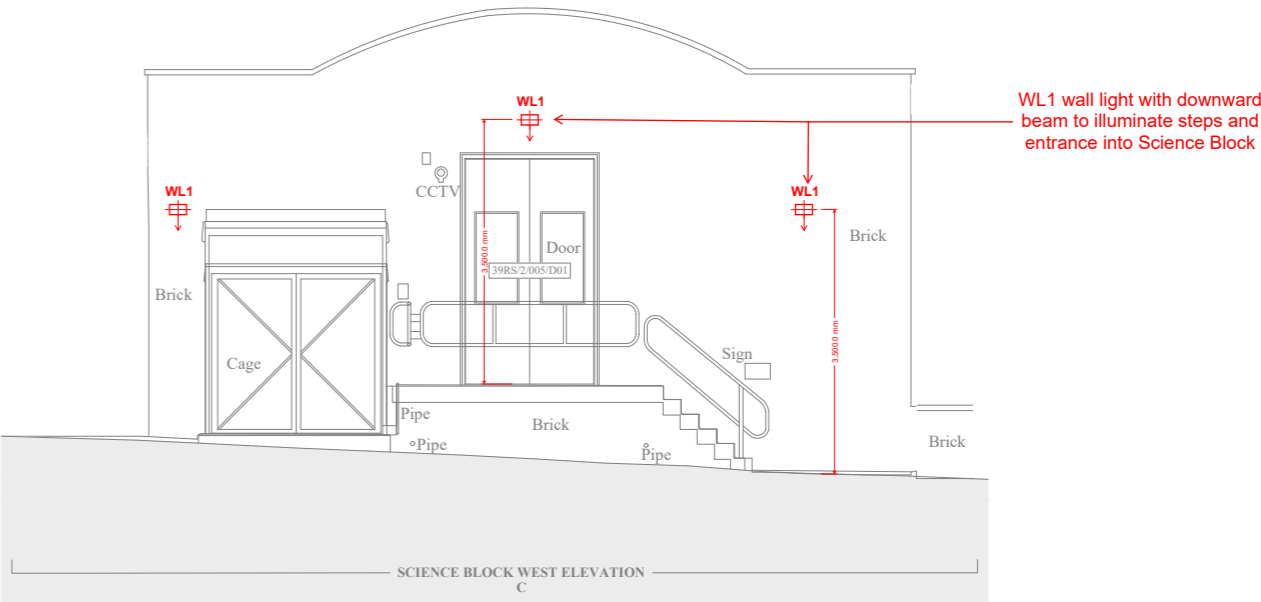
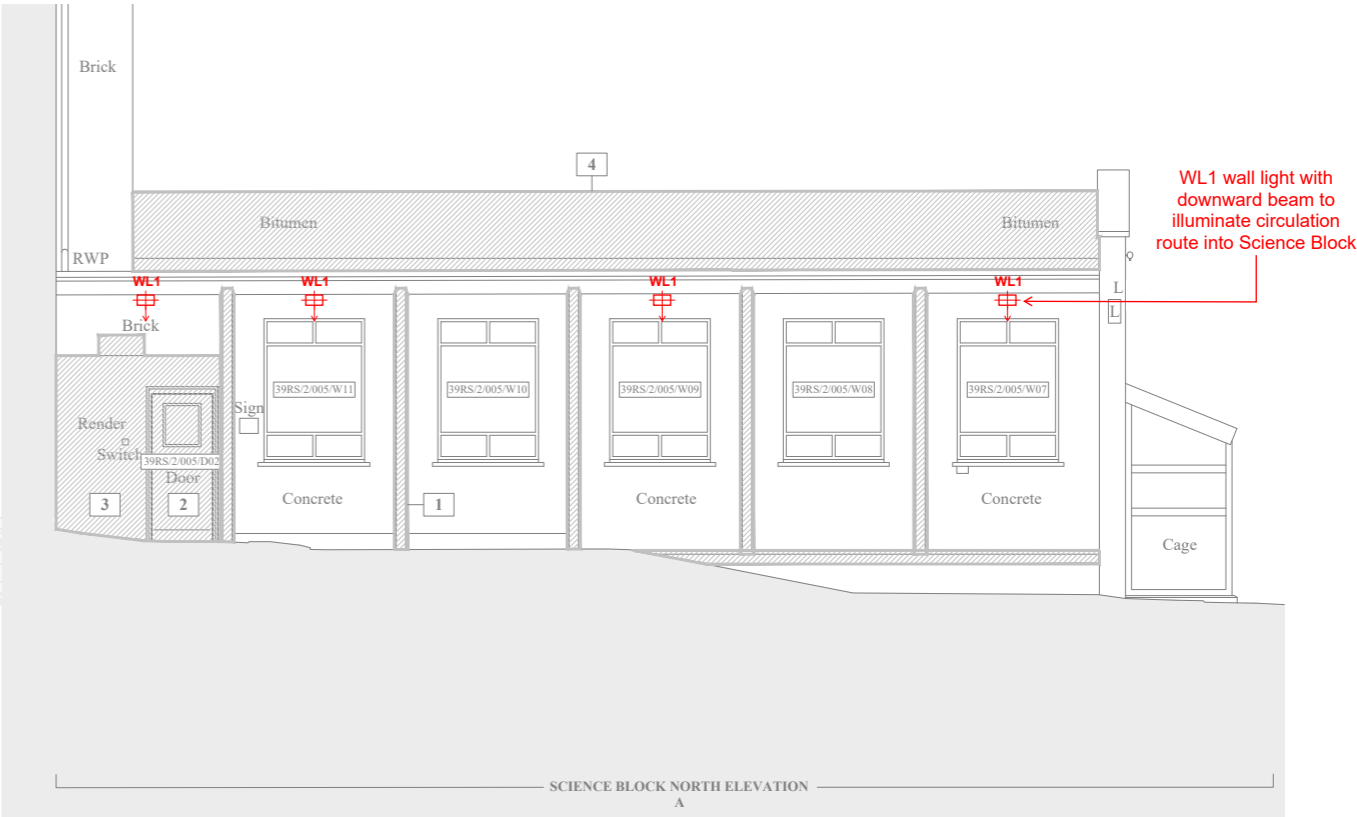
Luminaire Selection

- LED light sources have been specified due to their high colour rendering, lower energy consumption, long life span and minimal heat production
- High colour rendering with minimum CRI of 80+
- Colour temperature not exceeding 3000K as recommended by ILP Guidance note GNo8: 2018 Bats and artificial lighting in the UK.
- An ingress protection level of IP66 to protect from excessive dust and water typical in an exterior environment

From top right clockwise:

Proposed External Lighting on North Elevation of the Science Block

Proposed External Lighting on West Elevation of the Science Block



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